

THE UNIVERSALES OF AMIERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Western Plant Breeders

Collicreas, there has been presented to the

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS/CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT INTO THE SAID APPLICANT ST. AND THE SUCCESSORS, HEIRS OF ASSIGNS OF THE SAID APPLITIES FOR THE TERM OF EXCHICEN TEAMS FROM THE DATE OF THIS GRANT, SUBJECT THE PAYMENT OF THE REQUIRED FER AND PERIODIC REPTENISHMENT OF VIABLE BASIC THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXTHERS FROM SELLING THE VARIETY OF OFFERING IN FOR SALE, OR REPRODUCING IT, UNG IT, OR EXPORTING TO OR USING IT IN PRODUCING A HYBRID OR DIFFERENT EREFROM, TO THE EXTENTY PROTECTION ACT.

TED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS ERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS IT OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

"WestBred 911"

In Lestimony Extrerect, I have hereunto set my hand and caused the seal of the Plant Unrichy Protection Office to be affixed at the City of Washington, D.C. this 23rd day of September in the year of our Lord one thousand nine hundred and eighty-two

Commissionar Plant Variety Protection Office Gain Division

The R Block

UNITED STATES DEPARTMENT OF AGRICULTURE FORM APPROVED AGRICULTURAL MARKETING SERVICE LIVESTOCK, POULTRY, GRAIN & SEED DIVISION OMB NO. 40-R3822 No certificate for plant variety protection may APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE be issued unless a completed application form INSTRUCTIONS: See Reverse. has been received (5 U.S.C. 553). TEMPORARY DESIGNATION OF 1b. VARIETY NAME FOR OFFICIAL USE ONLY VARIETY PV NUMBER 225R-WC WestBred 911 8200053 KIND NAME 3. GENUS AND SPECIES NAME FILING DATE TIME A.M. 1/11/82 1:00 P.M. Triticum aestivum Wheat FEE RECEIVED DATE FAMILY NAME (BOTANICAL) 5. DATE OF DETERMINATION 500.00 1/11/82 250 00 Gramineae 6 - 1 - 80NAME OF APPLICANT(S) 7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP 8. TELEPHONE AREA PB ACGUISTITON CODE AND NUMBER 0. Box 1110 1918 W. Van Buren Western Plant Breeders WESTERN PLANT BREEDERS INC. Phoenix, AZ 85001-1110 12/12/48 (602) 257-1223 (a maryland corporation) ROBERT ATT. : MR. HUNTINGTON IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF 10. IF INCORPORATED, GIVE STATE AND DATE OF INCOR-ORGANIZATION: (Corporation, partnership, association, etc.) DATE OF INCORPORATION PORATION Corporation Arizona Dec. 1, 1977 Dec. 1, 1977 NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE 12. ALL PAPERS: Kim C. Shantz P. O. Box 1110 Western Plant Breeders Phoenix, AZ 85001 13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED: 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.) X 13B. Exhibit B, Novelty Statement. 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.) 13D. Exhibit D, Additional Description of the Variety. 14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) X YES NO DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE 14c, IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUC-LIMITED AS TO NUMBER OF GENERATIONS? TION BEYOND BREEDER SEED? **CERTIFIED FOUNDATION** DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? NO (If "Yes," give name of countries and dates.) HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? YES NO (If "Yes," give name of countries and dates.) DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL 16. NO Y YES The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties. ISIGNATURE OF APPL

(DATE)

(SIGNATURE OF APPLICANT)

WestBred 911 is a selection from the male sterile facilitated recurrent selection (MSFRS) F_2 population MSFRS Wheat Germplasm CC. A-1976 released by Rex K. Thompson at the University of Arizona, Mesa Station. The F_3 row was grown in Conrad, Montana in the summer of 1976 and a plant selection from this row was grown as an F_4 plot at El Centro, California in 1977. The plot was bulk harvest and the resulting F_5 , F_6 , and F_7 bulk was yield tested throughout the irrigated areas of Arizona and California in 1978, 1979, and 1980 respectively. An individual plant selection designated 225R-WC was made in 1979 from the bulk F_6 . This selection was maintained as a pure line and was yield tested in 1980 and 1981. One acre of 225-WC was grown at Conrad, Montana in 1980. The resulting production was grown on 40 acres at Chandler, Arizona in 1981 to produce Foundation Seed and designated WestBred 911.

Thus, WestBred 911 is an F_6 plant selection derived from an F_2 broad-based spring wheat population. The exact parentage is impossible to determine. After the F_2 heads were selected, a pedigree system of handling subsequent generations was used. One F_3 plant was used to produce the F_4 plant plot. This plant plot was carried to the F_6 generation. Then the individual plant selection was made and designated 225 R-WC. 225R-WC was increased and named WestBred 911.

WestBred 911 has a red chaff variant which occurs at a low frequency of about one plant in 10,000. A white seed variant occurs at a frequency

of about 10 per pound. Present purification procedures should greatly reduce these variants or possibly eliminate them.

WestBred 911 is a stable and uniform variety in agronomic appearance and performance across several generations and growing conditions. Agronomic data to support stability is presented in tables I, II, III, IV, V, and VI.

13B.

WestBred 911 is a semi-dwarf hard red spring wheat that is later, has a longer and more lax spike, and stronger straw than any currently-grown semi-dwarf variety of hard red spring wheat. The semi-solid straw of WestBred 911 differentiates it from all other cultivars of wheat grown in California and Arizona. Semi-solid straw means the stem is solid until shortly before grain physiological maturity and after that point it is hollow.

13B. (Revised)

WestBred 911 is a semi-dwarf hard red spring wheat that is later, has a longer and more lax spike, and stronger straw than any currently grown semi-dwarf of hard red spring wheat. The semi-solid straw of WestBred 911 differentiates it from all other cultivars of wheat grown in California and Arizona. Semi-solid straw means the stem is solid until shortly before grain physiological maturity and after that point it is hollow.

WestBred 911 is most like Yecora Rojo. It differs from Yecora Rojo by being 10-14 days later to heading. WestBred 911 has semi-solid straw as defined above while Yecora Rojo has hollow straw the entire season. Lodging resistance of WestBred 911 is considerably better than Yecora Rojo. In normal protein ranges (11.5% to 15%). Yecora Rojo will average 1% more protein than WestBred 911.

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FORM GR-470-6 (2-15-73)

UNITED STATES DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE GRAIN DIVISION HYATTSVILLE, MARYLAND 20782

EXHIBIT C

OBJECTIVE DESCRIPTION OF VARIETY

INSTRUCTIONS: See Reverse, WHEAT (TRI	TICUM SPP.)
WESTERN PLANT BREEDERS, INC.	FOR OFFICIAL USE ONLY
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)	8200053
P.O. Box 1110	VARIETY NAME OR TEMPORARY
	WestBred 911
Phoenix, Arizona 85001-1110	
Place the appropriate number that describes the varietal character. Place a zero in first box (e-s- 0 8 9 or 0 9) when number	r of this variety in the boxes below. is either 99 or less or 9 or less.
1. KIND:	
1 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5	= POLISH 6 = POULARD 7 = CLUB
2. TYPE:	
1 1 = SPRING 2 = WINTER 3 = OTHER (Specify)	1 = SOFT 3 = OTHER (Specify) 2 = HARD
2 1 = WHITE 2 = RED 3 = OTHER (Specify)	-
3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:	
1 0 2 FIRST FLOWERING	1 1 0 LAST FLOWERING
4. MATURITY (50% Flowering):	
0 5 NO. OF DAYS EARLIER THAN	3 1 = ARTHUR 2 = SCOUT 3 = CHRIS
NO. OF DAYS LATER THAN	4 = LEMHI 5 = NUGAINES 6 = LEEDS
5. PLANT HEIGHT (From soil level to top of head):	
0 7 2 cm. HIGH	
CM. TALLER THAN	1 = ARTHUR 2 = SCOUT 3 = CHRIS
3 0 CM. SHORTER THAN	4 = LEMHI 5 = NUGAINES 6 = LEEDS
PLANT COLOR AT BOOTING (See reverse):	7. ANTHER COLOR:
2 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN	1 1 = YELLOW 2 = PURPLE
. STEM:	
1 Anthocyanin: 1 = ABSENT 2 = PRESENT	2 Waxy bloom: I = ABSENT 2 = PRESENT
Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT	* See 13b 1 Internodes: 1 = HOLLOW 2 = SOLID
0 4 NO. OF NODES (Originating from node above ground)	1 5 CM. INTERNODE LENGTH BETWEEN FLAG LEAF
AURICLES:	
2 Anthocyanin: 1 = ABSENT 2 = PRESENT	1 Hairiness: 1 = ABSENT 2 = PRESENT
D. LEAF:	
Flag leaf at 1 = ERECT 2 = RECURVED booting stage: 3 = OTHER (Specify):	2 Flag leaf: 1 = NOT TWISTED 2 = TWISTED
Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT	2 Wary bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT
1 7 MM. LEAF WIDTH (First leaf below flag leaf)	3 3 CM. LEAF LENGTH (Piret leaf below flag leaf):

FORM GR-470-6 (REVERSE) 8200053	
11. HEAD: Shape: 1 TAPERING 2 STRAP 3 = CLAVAT	 F
Density: 1 = LAX 2 = DENSE 2 Snape: 1 = TAPERING 2 = STRAP 3 = CLAVAT 4 = OTHER (Specify)	
4 Awardness: 1 = Awaress 2 = APICALLY AWARETED 3 = AWARETED 4 = AWARD	
Color at macurity: 5 = BROWN -6 = BLACK	en e
1 4 CM. LENGTH 1 6 MM. WIDTH	
12. GLUMES AT MATURITY: 12. GLUMES AT MATURITY: 13. Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = WIDE (CA. 4 mm.)	3.5 mm.)
Shoulder 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 Shape: 4 = SQUARE 5 = ELEVATED 6 = APICULATE 3 Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE 164 820315	
13. COLEOPTILE COLOR: 14. SEEDLING ANTHOCYANIN:	
1 1 = WHITE 2 = RED 3 = PURPLE 1 1 = ABSENT 2 = PRESENT	
15. JUYENILE PLANT GROWTH HABIT:	
2 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT	
16. SEED:	:
3 Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL 1 Cheek: 1 = ROUNDED 2 = ANGULAR	:
1 Brush: 1 = SHORT 2 = MEDIUM 3 = LONG 2 Brush: 1 = NOT COLLARED 2 = COLLARED	
Phenol reaction 1 = IVORY • 2 = FAWN 3 = LT. BROWN	
(See instructions): 4 = BROWN 5 = BLACK	
3 Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify)	<u> </u>
0 7 MM. LENGTH 0 4 MM. WIDTH 4 4 GM. PER 1000 SEEDS	
17. SEED CREASE:	
Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'	
2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI' 3 = 50% OR LESS OF KERNEL 'LEMHI'	
18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)	
0 STEM RUST 0 LEAF RUST 2 STRIPE RUST 0 LOOSE SMUT	
2 POWDERY MILDEW 0 BUNT 0 OTHER (Specify)	
19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)	
0 SAWFLY 1 APHID (Bydv.) 0 GREEN BUG 0 CEREAL LEAF BEE	TLE
O OTHER (Specify) HESSIAN FLY) O GP O A O B	
RACES:	•
20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:	
CHARACTER NAME OF VARIETY CHARACTER NAME OF VARIETY	
Plant tillering Anza Seed size Yecora Rojo	
Leaf size Yecora Rojo Seed shape Yecora Rojo	
Leaf color Cajeme Coleoptile elongation Yecora Rojo	
Leaf carriage Yecora Rojo Seedling pigmentation Yecora Rojo INSTRUCTIONS	

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggle and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysis. (See attachment.)

Yield in Lbs. per acre of Westbred 911 and presently grown varieties in Western Plant Breeder's trials.

Location	Year	Month.	l Criema 71	Dunkund	Yecora	A	
		WestBred 91			Rojo	Anza	
Phoenix, AZ	1978	6527	6050	5720		7572	
	1979	5655	4355	4485	4875	5655	
	1980	7081	6249	6421	6563	7159	
Etrán a	1981	6100	5781	6157	6204	6533	
Yuma, AZ	1979	7345	6240	6695	6825	6695	•
	1981	6100	5775	6438	6013	6025	
El Centro, CA	1978	6365	4402	4940		6333	•
	1979*	4810	1140	1690	4355	3575	
	1980	7583	5558	6374	5778	7034	
	1981	5700	4350	5050	5450	6300	
Walnut Grove, CA	1978	4678	4678	4403		5504	•
	1979	4290	2730	3445	4225	4485	
Rio Vista, CA	1979	2535	1495	1560	2665	2925	
(Dryland)				1 2			
Davis, CA	1980	6585	5148	5586	5466	6804	
	1980	5170	4059	4758	4648	5407	
Fresno, CA	1980	6141	5886	5950	6311	6587	
	1981	4499	3784	4114	4015	4868	
Temecula, CA	1980	3726	3754	3410	2860	3685	
(Dryland)	• .						

^{*}Yield is directly related to percent shatter.

Table II

Percent protein of WestBred 911 and presently grown varieties in Western Plant Breeder's trials.

<u>Location</u>	<u>Year</u>	WestBred 911	Cajeme 71	Probred	Yecora Rojo	Anza
Phoenix, AZ	1978	12.9	14.6	13.8		
	1979	13.7	14.5	14.6	14.8	12.4
	1981	12.4	12.8	13.1	12.2	11.9
Yuma, AZ	1979	13.6	14.7	14.6	14.9	12.4
	1981	13.4	13.4	14.0	14.3	12.1

					Yecora	8200053
Location	Year	WestBred 911	Cajeme 71	Probred		Anza
El Centro, CA	1978	13.5	14.3	14.3		
	1979	12.1	12.9	12.8	13.1	
	1980	12.8	13.7	13.2	13.6	11.6
	1981	13.5	13.9	14.0	14.3	12.6
Walnut Grove, CA	1978	11.0	11.5	11.8		10.0
Rio Vista, CA (Dryland)	1979	10.9	10.8	10.4	10.9	9.9
Davis, CA	1980	10.3	13.2	11.9	12.1	10.2
Fresno, CA	1980	12.3	13.3	13.5	13.8	12.1
	1981	12.6	13.3	13.4	14.0	11.8
Temecula, CA	1980	9.2	9.9	9.8	8.6	9.3

Table III

Heading dates of WestBred 911 and presently grown varieties in Western Plant Breeder's trials.

Location	Year	WestBred 911	Cajeme 71	Probred	Yecora Rojo	Anza
El Centro, CA	1978	3-17	3-11	`3-'09	3-06	3-15
	1980	3-19	3-13	3-11	3-04	3-16
Yuma, AZ	1978	4-01	3-17	3-15		3-19
Phoenix, AZ	1978	4-01	3-17	3-15		3-19
	1981	4-03	3-28	3-27	3-23	4-03

Percent lodging of WestBred 911 and presently grown varieties in Western Plant Breeder's trials.

Location	<u>Year</u>	WestBred 911	Cajeme 71	Probred	Yecora Rojo	Anza
Phoenix, AZ	1978	0	60	50		40
El Centro, CA	1978	0	25	10		35
	1981	0	0	25	60	5

Table IV

Plant height in inches of WestBred '911 and presently grown varieties in Western Plant Breeder's trials.

Location	Year	WestBred 911	Cajeme 71	Probred	Yecora Rojo	Anza
Phoenix, AZ	1978	33	35	36		40
	1979	31	29	29	29	37
	1981	33	35	34	33	39
Yuma, AZ	1979	34	33	31	32	37
El Centro, CA	1979	35	35	33	28	37
	1980	31	32	31	31	34
Walnut Grove, CA	1979	27	26	25	26	33
Rio Vista, CA	1979	32	28	29	32	34
(Dryland)				· · · · · · · · · · · · · · · · · · ·		
Davis, CA	1980	33	36	33	35	37
Fresno, CA	1980	37	37	36	33	40
	1981	30	29	29	28	34
• •		and the second s				

Table V

Bushel weight of WestBred 911 and presently grown varieties in Western Plant Breeders trials.

					Yecora	
<u>Location</u>	Year	WestBred 911	Cajeme 71	<u>Probred</u>	<u>Rojo</u>	Anza
Phoenix, AZ	1979	58.0	59.5	60.0	60.0	61.5
	1980	63.0	63.0	63.0	62.5	64.5
1	1981	64.0	65.0	64.0	66.0	65.0
El Centro, CA	1980	63.0	64.0	64.0	64.0	64.0
** - -	1981	63.0	63.0	63.0	63.5	63.0
Walnut Grove, CA	1979	61.0	64.0	64.0	64.0	64.0
Davis, CA	1980	64.0	64.0	65.0	65.0	65.0
	. •					
Fresno, CA	1980	61.0	64.0	64.0	64.0	62.0
	1981	65.0	65.0	65.0	66.0	65.0
Temecula, CA	1980	64.0	64.0	64.0	65.0	64.0
Rio Vista, CA	1979	62.0	64.0	64.0	64.0	63.0

Table VI

Milling and baking quality of WestBred 911 compared to Yecora Rojo and Probred.*

Variety:	WestBred 911	Probred	Yecora Rojo
Location:	Yuma Phoenix	Yuma Phoenix	Yuma Phoenix
Wheat Protein%:	13.4 13.6	15.1 14.2	14.8 14.8
Wheat Moisture %:	8.4 8.0	8.5 8.3	8.5 8.1
Test Weight:	62.1 59.5	62.6 59.9	62.6 60.6
Flour Extraction:	59.4 59.9	62.6 59.9	63.7 64.6
Flour Ash:	.46 .49	.449 .409	.404 .409
Flour Protein:	11.4 11.5	12.3 12.7	12.2 13.0
Farinograph:			
Absorption %:	65.8 67.3	65.1 64.7	62.2 66.5
Arrival:	1.5 2.5	2.5 4.5	1.5 3.0
Peak:	5.0 6.0	6.0 7.5	7.0 7.0
Stability:	7.0 6.0	6.0 5.5	11.5 9.5
M.T.I.:	60.0 60.0	60.0 70.0	20.0 30.0
Baker's Bread			
Volume .	3200 3000	2900 2975	3075 2950
Dough Char.	Mellow Mellow	Strong Weak	Strong Mellow
Rating**	7 6	5 5	7 6
Over All Rating**	5 5	5 5	6 6

^{*} Quality data supplied by General Mills, Inc.

^{** 5=}Satisfactory, equal to check variety.
6=Is slightly more desirable than 5.